

US CLAIMS

1. Profile measurement device, comprising a feeler (4) typified by a manipulation knob (14) connected to the feeler, a support (5), a table with two perpendicular movements (6) associating the support to the feeler, and immobilization means (17, 18, 19, 20; 49, 18' 19') of the support compared to the profile; a pair of displacement transducers (21, 22) situated between the mobile portions of the table and measuring displacements according to the perpendicular movements; and means (7) for reading and memory storage of the displacements measured.

2. Measurement device according to claim 1, typified in that the immobilization means of the support comprise a pair of rests (18, 19) (travel stops) either side of the feeler and oriented in the same direction as the feeler.

3. Measurement device according to claim 1, typified in that the immobilization means of the support comprise a pair of pins (16, 17).

4. Measurement device according to claim 1, typified in that the immobilization means of the support comprise a base (48).

5. Measurement device according to claim 2, typified in that the support comprises a column and a shank (15'), table holder (6'), situated at a height adjustable on the column, and one of the two perpendicular movements is vertical.

6. Device according to claim 5, typified in that it comprises a counterweight (43) balancing the knob, the moving parts of the table and the feeler.

7. Measurement device according to claim 4, typified in that it comprises a surface plate (42) on which the base and a part (1') bearing the profile are placed.

8. Measurement device according to claim 1, typified in that it comprises a mandrel (3) on which a part (1) bearing the profile is installed, and bearer of complementary means for the immobilization means of the support.

9. Measurement device according to claim 1, typified in that it comprises a measurement standard (39) bearer of complementary means for the immobilization means of the support.

10. Measurement device according to claim 1, typified in that the feeler comprises an oblique rod (8), and a return device (30) of the rod between two positions at either end of a U-turn, travel stops (35, 36) of the rod at the two positions, and a holding means (33) of the rod at the two positions.

11. Measurement device according to claim 2, typified in that it comprises reference feelers (41) associated with the rests (18, 19) (travel stops).

12. Measurement device according to claim 1, typified in that it comprises a control (28) for the start and stoppage of the displacement memory storage.

13. Profile measurement process of a part (1, 1'), involving a portable feeler device (4, 4'), according to the following steps:

- calibration of the device,
- assembly of the device at a fixed position as compared with the part,
- manual displacement of the feeler along the profile,
- 5 - automatic correction of measurement errors due to wear or deformation of the feeler, using the results of the calibration.